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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,531	02/06/2004	Naozumi Arimoto	8305-235US (NP146-1)	6798
570 7590. 04/04/2007 AKIN GUMP STRAUSS HAUER & FELD L.L.P. ONE COMMERCE SQUARE 2005 MARKET STREET, SUITE 2200 PHILADELPHIA, PA 19103			EXAMINER MCAVOY, ELLEN M	
			ART UNIT	PAPER NUMBER
			1764	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/04/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/773,531

Applicant(s)

ARIMOTO, NAOZUMI

Examiner

Ellen M. McAvoy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al (6,617,286).

Applicant's arguments filed 5 October 2006 have been fully considered but they are not persuasive. As previously set forth, Sato et al ["Sato"] disclose a lubricating oil composition for continuously variable transmissions which comprises a lubricating base oil selected from mineral oil and/or synthetic oil formulated with (A) a wear preventive, (B) a metal detergent, and (C) an ashless dispersant. The wear preventive is a phosphorus-based additive present in the composition in an amount to provide a range of 200-500 ppm (0.02 to 0.05 wt.%) as phosphorus based on the total weight of the composition. See column 4, lines 45-67. The metal detergent may be a calcium salt present in the composition in an amount to provide a range of 100-1000 ppm (0.01 to 0.1 wt.%) as metal content based on the total weight of the composition. See column 5, lines 1-32. The ashless dispersant may be a borated succinimide wherein the content of boron ranges from 0.1-5 wt.% based on the total weight of the boron-containing succinimide. See column 5, lines 35-61. Sato allows for the addition of other additive components to the composition including benzotriazole and thiadiazole metal deactivators which may be present in an amount of 0.001-3 wt.%. The examiner maintains the position that the transmission

compositions of Sato meet the limitations of the above rejected claims. Although mass ratios of phosphorus : calcium : boron : sulfur are not specifically set forth, the amounts set forth for compounds containing each of these elements result in lubricant compositions meeting the claimed ratio.

Applicant argues that:

“Sato does not teach or suggest the claimed mass ratio of sulfur to phosphorus, the claimed sulfur content derived from a base oil, or the claimed concentration of sulfur derived from sulfur-based additives.” And that “...concerning sulfur content, for example, as seen in Table 1 of the specification, Examples 1-4 containing a solvent-refined paraffin mineral oil have a base oil kinematic viscosity of 4.1 mm<sup>2</sup>/s at 100°C, and the concentration of sulfur derived from the base oil is 0 mass %. The composition of Comparative Example 6 (Table 4) also contains a base oil having a kinematic viscosity of 4.1 mm<sup>2</sup>/s at 100°C but a sulfur content of 0.15 mass %, outside of the claimed range.”

This is not deemed to be persuasive because the disclosure of Sato is not limited to the demonstrative examples but to what is fairly taught to one of ordinary skill in the art. Sato allows for the addition of numerous base oils to the lubricating oil compositions including mineral oils, synthetic oils and mixtures thereof. Sato teaches that the mineral oil consists of a hydrocarbon oil fraction having a lubricating oil viscosity, and that specific examples include light neutral oils, medium neutral oils, heavy neutral oils and bright stocks. See column 3, line 42 to column 4, line 43. Although sulfur contents are not set forth for the base oil component, one of ordinary skill in the art knows that mineral oils contain an amount of sulfur and other such impurities. The examiner is of the position that a wide range of sulfur contents for the base oil component is disclosed in the prior art since the base oil component includes mineral oils,

synthetic oils (which generally do not contain sulfur) and mixtures thereof. Thus the examiner is of the position that the amount of sulfur in the claimed lubricating oil compositions is within the amount of sulfur of the base oil components taught as suitable in Sato.

***Claim Rejections - 35 USC § 103***

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watts et al (6,121,209) in combination with Smalheer et al.

Applicant's arguments filed 05 October 2006 have been fully considered but they are not persuasive. As previously set forth, Watts et al ["Watts"] disclose lubricating oil compositions suitable for use in automatic transmissions which comprise a major amount of lubricating oil and minor amounts of (A) a phosphoric acid-containing compound, and (B) an ashless antioxidant. Watts teaches that the preferred range of component (A) corresponds to approximately 0.02 to 0.04 mass percent phosphorus in the oil. See column 3, lines 6-13. Watts teaches that desirably a source of boron is present in the oil composition which may be present in the form of borated dispersants, borated amines, borated alcohols, borated esters or alkyl borates. See column 3, lines 14-20. Watts also allows for the addition of other additives to the oil compositions including corrosion inhibitors and detergents which are typically disclosed in Smalheer et al. Suitable corrosion inhibitors include metal dithiophosphates and metal dithiocarbamates which are set forth on page 6, and suitable detergents include calcium-containing detergents. Amounts of the various additives which may be added to the lubricant composition are cited in the Table

in column 3 of Watts. The examiner is of the position that the transmission compositions of Watts meet the limitations of the above rejected claims. Although mass ratios of phosphorus : calcium : boron : sulfur are not specifically set forth, the amounts set forth for compounds containing each of these elements result in lubricant compositions meeting the claimed ratio.

Applicant argues that:

“Watts teaches a lubricating oil composition comprising a major amount of a lubricating oil and minor amounts of: (A) phosphoric acid and (B) di-nonyl-diphenylamine, which are taught to improve the oxidation stability of the composition. However, the invention of Watts is not designed to provide excellent  $\mu$ -V characteristics so as to always be maintained in a positive gradient in belt type CVTs to prevent the occurrence of scratch noises even after being used for a long period of time. Since Watts does not acknowledge the need to maintain excellent  $\mu$ -V characteristics or a positive gradient thereof, there would have been no motivation to adjust the parameters (such as sulfur content) which are necessary to obtain such results.”

This is not deemed to be persuasive because the claims are drawn to lubricating oil compositions and not to methods of lubricating automatic transmissions which meet certain characteristics.

The claimed compositions appear to be taught by Watts as outlined above. Although a sulfur content for the compositions is not taught, Watts allows for the addition of numerous base oils to the lubricating oil compositions including natural oils, synthetic oils and mixtures thereof. Watts teaches that the natural oils include petroleum oils and mineral oils which may be unrefined, refined, rerefined and mixtures thereof. See column 4, line 22 to column 6. Although sulfur contents are not set forth for the base oil component, one of ordinary skill in the art knows that mineral oils contain an amount of sulfur and other such impurities. The examiner is of the position that a wide range of sulfur contents for the base oil component is disclosed in the

prior art since the base oil component includes natural oils, synthetic oils (which generally do not contain sulfur) and mixtures thereof. Thus the examiner is of the position that the amount of sulfur in the claimed lubricating oil compositions is within the amount of sulfur of the base oil components taught as suitable in Watts.

***Claim Rejections - 35 USC § 103***

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bloch et al (5,443,744) in combination with Smalheer et al.

Applicant's arguments filed 05 October 2006 have been fully considered but they are not persuasive. As previously set forth, Bloch et al ["Bloch"] disclose lubricating oil compositions which are suitable as automatic transmission fluids containing a base oil and the reaction product of a phosphating agent and a thioalcohol. Bloch teaches that the reaction product may be added to the base oil in an amount corresponding to approximately 0.02 to 0.04 mass percent phosphorus in the oil. See column 4, lines 37-44. Bloch teaches that a boron source such as borated dispersants, borated amines, borated alcohols, borated esters or alkyl borates may be added, and that a molar ratio of boron to the phosphorus in the reaction product (B/P) is preferably 0.5 to 2.0. See column 4, lines 45-52. Bloch teaches that the lubricating oil compositions may contain one or more additives including corrosion inhibitors and detergents which are typically disclosed in Smalheer et al. Suitable corrosion inhibitors include metal dithiophosphates and metal dithiocarbamates which are set forth on page 6, and suitable

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detergents include calcium-containing detergents. Amounts of the various additives which may be added to the lubricant composition are cited in the Table in column 5 of Bloch. Bloch teaches that the metal in the detergent component is present in the composition in a metal to phosphorus molar ratio (M/P) of 0.005 to 0/5. See column 5, lines 27-44. The examiner is of the position that the transmission compositions of Watts meet the limitations of the above rejected claims. Although mass ratios of phosphorus : calcium : boron : sulfur are not specifically set forth, the amounts set forth for compounds containing each of these elements result in lubricant compositions meeting the claimed ratio.

Applicants argue that:

“Bloch does not teach or suggest the claimed concentrations of sulfur derived from a base oil or sulfur derived from a sulfur-based additive. As previously explained with reference to Sato, the amount of sulfur in the composition which is derived from the base oil is critical for providing the observed favorable  $\mu$ -V characteristics after oxidation. Since Bloch does not specifically teach the mass % of sulfur, there would have been no suggestion or motivation based on Bloch that such a concentration would have been limited to not more than 0.1 mass % as claimed. There is also no suggestion in Bloch that the concentration of sulfur derived from a sulfur-based additive should be limited to 0.01 to 0.15 % by mass as claimed.”

This is not deemed to be persuasive because the claims at issue are drawn to lubricating oil compositions and not to methods of lubricating automatic transmissions which meet certain characteristics. The claimed compositions appear to be taught by Bloch as outlined above.

Although a sulfur content for the compositions is not taught, Bloch allows for the addition of numerous base oils to the lubricating oil compositions including natural oils, synthetic oils and

mixtures thereof. Bloch teaches that the natural oils include petroleum oils and mineral oils which may be unrefined, refined, rerefined and mixtures thereof. See column 7, line 43-65. Although sulfur contents are not set forth for the base oil component, one of ordinary skill in the art knows that mineral oils contain an amount of sulfur and other such impurities. The examiner is of the position that a wide range of sulfur contents for the base oil component is disclosed in the prior art since the base oil component includes natural oils, synthetic oils (which generally do not contain sulfur) and mixtures thereof. Thus the examiner is of the position that the amount of sulfur in the claimed lubricating oil compositions is within the amount of sulfur of the base oil components taught as suitable in Bloch.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

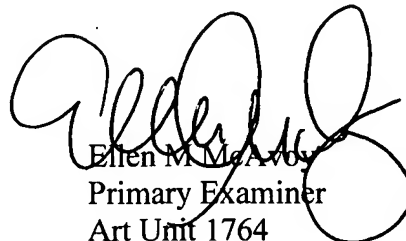
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen M. McAvoy whose telephone number is (571) 272-1451. The examiner can normally be reached on M-F (7:30-5:00) with alt. Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Ellen M. McAvoy  
Primary Examiner  
Art Unit 1764

EMcAvoy  
March 31, 2007